LAWRENCE LIVERMORE REPORT

A weekly collection of scientific and technological achievements from Lawrence Livermore National Laboratory: Feb. 11-15, 2008.

International team discovers new solar system

An artist's rendering of a microlensing event in which researchers discovered a new solar system with scaled-down versions of Jupiter (foreground) and Saturn.

We are not alone. At least, our solar system is not, according to findings by an international team of scientists that includes Laboratory researchers. Harnessing the Lawrence Livermore pioneering work in gravitational microlensing, supercomputer modeling and adaptive optics, scientists have found two planets in a solar system much like our very own.

The team discovered a solar system nearly 5,000 light years away that contains two scaled-down gas giant planets. They are about half the distance from their source star as Jupiter and Saturn are from our sun, but the two new planets are the same distance apart as Jupiter and Saturn are to each other. The research appears in this weekís issue of *Science* magazine, as well as the *New York Times, Washington Post* and other publications.

For more, see the press release: <https://publicaffairs-dev.llnl.gov/news/lab_report/https://publicaffairs.llnl.gov/news/news_releases/2008/NR-08-02-05.html> https://publicaffairs.llnl.gov/news/news_releases/2008/NR-08-02-05.html
Click on the following link for a short movie: <<https://publicaffairs-dev.llnl.gov/news/lab_report/https://publicaffairs.llnl.gov/news/video/new_planets.mov> https://publicaffairs.llnl.gov/news/video/new_planets.mov>

Lake Mead may be dry by 2021

Lake Mead

There is a 50 percent chance Lake Mead, a key source of water for millions of people in the Southwestern United States, will be dry by 2021 if the climate changes as expected and future water use is not limited, warn researchers at Scripps Institution of Oceanography at the University of California-San Diego.

Their research was supported under a joint program between UC San Diego and Lawrence Livermore National Laboratory and by the California Energy Commission.

Without Lake Mead, the largest manmade lake and reservoir in the United States, and neighboring Lake Powell, the Colorado River system has no buffer to sustain the population of the Southwest through a sustained drought. Cities such as Las Vegas, Los Angeles and San Diego would become unstable and variable, researchers say.

For the story, see <https://publicaffairs-dev.llnl.gov/news/lab_report/http://www.ens-newswire.com/ens/feb2008/2008-02-12-095.asp> http://www.ens-newswire.com/ens/feb2008/2008-02-12-095.asp

Lab in the news: Neutron detectors and supercomputers

ORTEC's Fission Meter™ is a portable neutron source identification system.

Two Lab technologies are making headlines -- BlueGene/L and neutron detection.

The portable neutron detection system, which was recently honored with a Federal Laboratory Consortium (FLC) Award for technology transfer, is noted for its ability to sniff out fissionable materials that could be smuggled into the country, for use in a dirty bomb.

For more, see <https://publicaffairs-dev.llnl.gov/news/lab_report/http://abclocal.go.com/kgo/media?id=5953997> http://abclocal.go.com/kgo/media?id=5953997

BlueGene/L, the fastest supercomputer in the world, and its role in keeping the nuclear arsenal of the nation safe and secure, also was in the spotlight.

Learn more about this supercomputer at <https://publicaffairs-dev.llnl.gov/news/lab_report/http://cbs5.com/goodquestion/most.powerful.computer.2.651783.html> http://cbs5.com/goodquestion/most.powerful.computer.2.651783.html

Bill Gates visits Lab for tours of NIF, TSF

Pictured at NIF, from left: Former Director John Nuckolls, NIF Principal Associate Director Ed Moses, Lab Director George Miller, Bill Gates, physicist Lowell Wood and Executive Officer Ron Cochran.

Bill Gates, chairman of Microsoft, visited the Lab recently. He received briefings on the National Ignition Facility (NIF) and Advanced Simulation and Computing. Gates also toured NIF, as well as the Terascale Simulation Facility, where he saw computation demonstrations on global climate modeling and biosciences. He was very engaged, said Ed Moses, principal associate director of NIF and Photon Science. He knew quite a bit about the Lab and its programs and he asked some interesting questions, commented Moses.

Lab engineer receives American Acoustical Society award

Jim Candy

James V. Candy, chief scientist for the Lawrence Livermore National Laboratory Engineering Directorate, has been awarded the prestigious Helmholtz-Rayleigh Interdisciplinary Silver Medal for his contributions to signal processing and underwater acoustics by the Acoustical Society of America (ASA), a society of the American Institute of Physics (AIP). The award recognizes Candy for his pioneering work developing model-based signal and image processing techniques that have improved acoustical detection and measurement for applications in national security, materials science and medicine.

For the complete story, see <https://publicaffairs-dev.llnl.gov/news/lab_report/https://publicaffairs.llnl.gov/news/news_releases/2008/NR-08-02-06.html> https://publicaffairs.llnl.gov/news/news_releases/2008/NR-08-02-06.html

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